RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
GROUP ART UNIT 2191

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application. No: 09/631,212
Filed: August 3, 2000
Inventor(s):
Nicolas Vazquez and Kevin L. Schultz

Title: SYSTEM AND METHOD FOR AUTOMATICALLY CREATING A PROTOTYPE TO PERFORM A PROCESS

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Examiner: Khatri, Anil
Group/Art Unit: 2191
Atty. Dkt. No: 5150-44800

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, Alexandria, VA 22313-1450, on the date indicated below.

Jeffrey C. Hood

6/7/2006 (Date) JCH (Signature)

REQUEST FOR PRE-APPEAL BRIEF REVIEW

ATTN: BOX AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reason(s) stated below.

Applicant is in receipt of the Final Office Action received April 14, 2006. Claims 71-104 remain pending in this case. Reconsideration of the present case is earnestly requested in light of the following remarks. Please note that for brevity, only the primary arguments directed to the independent claims are presented, and that additional arguments, e.g., directed to the subject matter of the dependent claims, will be presented if and when the case proceeds to Appeal.

Claims 71-104 were rejected under 35 U.S.C. 102(a) as being anticipated by Chin et al., "Model Based Recognition in Robot Vision" ACM Computing Surveys, volume 18, number 1, pages 67-108, March 1986 ("Chin"). Applicant respectfully traverses the rejections.

With regard to claim 71, Applicant respectfully submits that Chin fails to disclose **receiving user input selecting a machine vision problem from the plurality of machine vision problems**. With regard to this feature of claim 71, the Examiner cited page 75, column 1, section 3.1.1, which recites:

> *Model.* The SRI Vision Module [Gleason and Agin 1979] is the prototypical system of the global feature method. The user interactively selects a set of global features which are used to construct an object model as a feature vector. This process is an example of the "training by showing" method of modeling. For each distinct viewpoint of each object modeled, a sample prototype is used to compute the values of each feature selected. The selection of which features are sufficient to discriminate adequately among objects is determined by trial and error. Thus, if a new object is introduced later into the system, the complete process of feature selection must be repeated in order to discriminate properly among all of the possible objects in a scene.

Thus, the cited paragraph teaches a method for training a model by interactively selecting global features. Applicant respectfully submits that the cited paragraph is simply not pertinent to the feature of claim 71 recited above. One skilled in the art of vision machine systems understands that the user *interactively* selecting a set of *global features* which are used to construct an object model as a feature vector is not *receiving user input selecting* ***a machine vision problem from a plurality of machine vision problems***. Said another way, global features are not machine vision problems; instead, they are features of an object.

Applicant notes that the Examiner responded to the above arguments by stating that Chin discloses the user selecting various options in the reference. For example, the Examiner restated, "page 75, column 1, last paragraph, 'user interactively select...'" as evidence of the user selecting machine vision problems. As argued above, Chin does not disclose, in this section or anywhere else, selection of a machine vision problem of a plurality of machine vision problems as recited in claim 71. Applicant respectfully submits that simply because the user can, at some point, select global features, Chin does not necessarily disclose the specific limitation recited above as asserted by the Examiner. Applicant notes that the Examiner has not provided any explanation as to how this paragraph, or anywhere else in Chin, teaches this particular feature of claim 71.

Additionally, Applicant notes that the Examiner also cited page 86, column 1, first paragraph, "which are selected by user...". Again, Applicant respectfully submits that the Examiner fails to provide any explanation as to how this section discloses the specific limitation of claim 71 recited above. In this section, a particular template feature relation model is described. More specifically, in this model, a user may select various templates of images of

corner views of a microchip (at different rotations), which may be used to by the model to define a starting point and rotation for matching the rest of the chip. Applicant respectfully submits that the user selecting template images of different rotations of a electronic chip is simply not pertinent to selecting *a machine vision problem from a plurality of machine vision problems*. One skilled in the art of machine vision problems understands that template images are not machine vision problems.

Thus, for at least the reasons provided above, Applicant respectfully submits that Chin fails to disclose this feature of claim 71.

With further regard to claim 71, Chin fails to disclose **automatically creating a prototype in response to the selected machine vision problem, wherein the prototype comprises information specifying a sequence of functions, wherein the information specifying the sequence of functions is useable by a prototyping environment to invoke the sequence of functions to perform a machine vision process that solves the selected machine vision problem, wherein said automatically creating is performed without direct user input selecting the functions.** In the instant Office Action, the Examiner states that page 75, column 1, last paragraph of Chin includes the phrase "is the prototypical system...". The Examiner goes on to "[interpret] that the reference discloses a method which allows prototyping for a problem and provide more information about the features were taken into consideration to solve problem" [*Sic*] based on this particular section. Applicant notes that the entire sentence recites, "The SRI Vision Module [Gleason and Agin 1979] is the prototypical system of the global feature method". Applicant respectfully submits that the phrase "prototypical system" as recited in Chin in no way relates to *creating a prototype in response to the selected machine vision problem...* as recited in claim 71. Applicant reminds the Examiner that prototypical, as defined by the American Heritage Dictionary of the English Language©, is "an original type, form, or instance serving as a basis or standard for later stages". More specifically, Chin is actually stating that the SRI Vision Module is an exemplary, or archetypical global feature model. Moreover, Chin is describing a commonly used global feature model in the cited paragraph, which, as argued above, does not teach the features and limitations recited in claim 71. Thus, Chin describes the SRI Vision Module as an exemplary global feature method system, and does not disclose **automatically creating a prototype in response to the selected machine vision problem...** as recited in claim 71.

Additionally, Applicant notes that the Examiner previously cited page 75, column 2, in reference to this feature, which recites:

> *Matching.* Matching uses a decision-tree method based on the list of global features associated with each model [Agin and Duda, 1975]. The tree is automatically constructed from the models as follows. (1) The feature values with the largest separation for a given feature and pair of object models are found, and this feature is used to define the root node of the tree. That is, a threshold is selected for this feature that distinguishes between these two models. (2) Two children of the root node are constructed such that all models that have a feature value less than or equal to the threshold are associated with the left child; the right child is assigned all models with a feature value greater than the threshold. (3) This procedure is repeated recursively, dividing a set of model candidates associated with a node into two disjoint subsets associated with its two children. A terminal node in the tree is one that contains a single model.

Thus, the above paragraph describes a method for distinguishing between various models. Applicant respectfully submits that the above cited paragraphs are also not pertinent to the feature of claim 71 recited above. One skilled in the art of machine vision systems understands that a decision-tree method for matching pre-defined objects based on the list of global features associated with each model or an exemplary global feature method system is not *automatically creating a prototype in response to the selected machine vision problem.*

Additionally, as argued above, Chin fails to disclose receiving user input selecting a machine vision problem; therefore, Chin cannot teach *automatically creating a prototype in response to the selected machine vision problem.* By the same fact, Chin cannot teach *wherein the prototype comprises information specifying a sequence of functions, wherein the information specifying the sequence of functions is useable by a prototyping environment to invoke the sequence of functions to perform a machine vision process that solves the selected machine vision problem.* In fact, Applicant notes that Chin fails to mention a sequence of functions at all.

Applicant further notes that, given a new object, the cited paragraph (page 75, column 1) specifically states that the complete process of feature selection must be repeated in order to discriminate properly among all the possible objects in a scene. Thus, Applicant submits that Chin actually **teaches away** from *automatically creating a prototype in response to the selected machine vision problem, wherein said automatically creating is performed without direct user input selecting the functions*, because, in Chin, the user must train the Module, via the "training by showing" method each time a new object is introduced. Moreover, in Chin, the user must manually teach the system how to identify global features; Chin nowhere discloses a system which automatically creates a prototype which specifies a process to solve the machine vision problem as recited in the claims. Thus, for at least the reasons above, Applicant respectfully submits that Chin fails to teach the feature of claim 71 recited above.

Thus, for at least the reasons provided above, Applicant submits that Chin fails to teach all the features and limitations of claim 71, and so Applicant submits that claim 71 and those claims dependent therefrom are patentably distinct and non-obvious over the cited art, and are thus allowable. Claims 94, 101, 102, and 104 include similar limitations as claim 71, and so the above arguments apply with equal force to these claims. Thus, for at least the reasons provided above, Applicant submits that claims 94, 101, 102, and 104, and those claims respectively dependent therefrom, are patentably distinct and non-obvious, and are thus allowable.

Applicant also submits that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the rejection has been shown to be unsupported for the independent claims, a further discussion of the dependent claims is not necessary at this time.

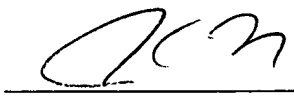
In light of the foregoing amendments and remarks, Applicant submits the application is now in condition for allowance, and an early notice to that effect is requested. If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-44800/JCH.

Also enclosed herewith are the following items:

☒ Return Receipt Postcard

☒ Notice of Appeal

Respectfully submitted,



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